Abdomen.—Abdomen subparallel, widest at apex of fifth segment. First four segments subequal in length, fifth one-third longer than fourth. Surface above and beneath minutely reticulate, with very fine scattered punctures and very fine sparse pubescence. Side margins with long, coarse pubescence. Sternites unmodified.

Legs.—Femora elongate-oval, flattened dorsoventrally. Tibiae almost straight, slightly widened apically, finely pubescent and with a few moderate apical spines. Anterior tarsi with the first four segments moderately dilated; fifth slender, almost as long as the first four together. Middle and posterior tarsi with the first four segments short, decreasing slightly in length, fifth about as long as first four together.

Length.—2.5 mm.

Holotype.—Sex unknown. MOKEL HILL, CALAVERAS COUNTY, CALIFORNIA, VII–18–10, Frank E. Blaisdell collector, in the collection of the California Academy of Sciences.

NOTES.—This species can be distinguished from the only other known species, *simplex*, by the eyes being about as long as the tempora and by the punctulae of the pronotum. In the latter species, the eyes are about one-half the length of the tempora and the pronotum is said to be impunctate.

It is a pleasure to name this interesting insect in honor of Hugh B. Leech of San Francisco to whom I am indebted for many favors.

Two New Species of *Macrurohelea* from Chile

(Diptera, Ceratopogonidae)

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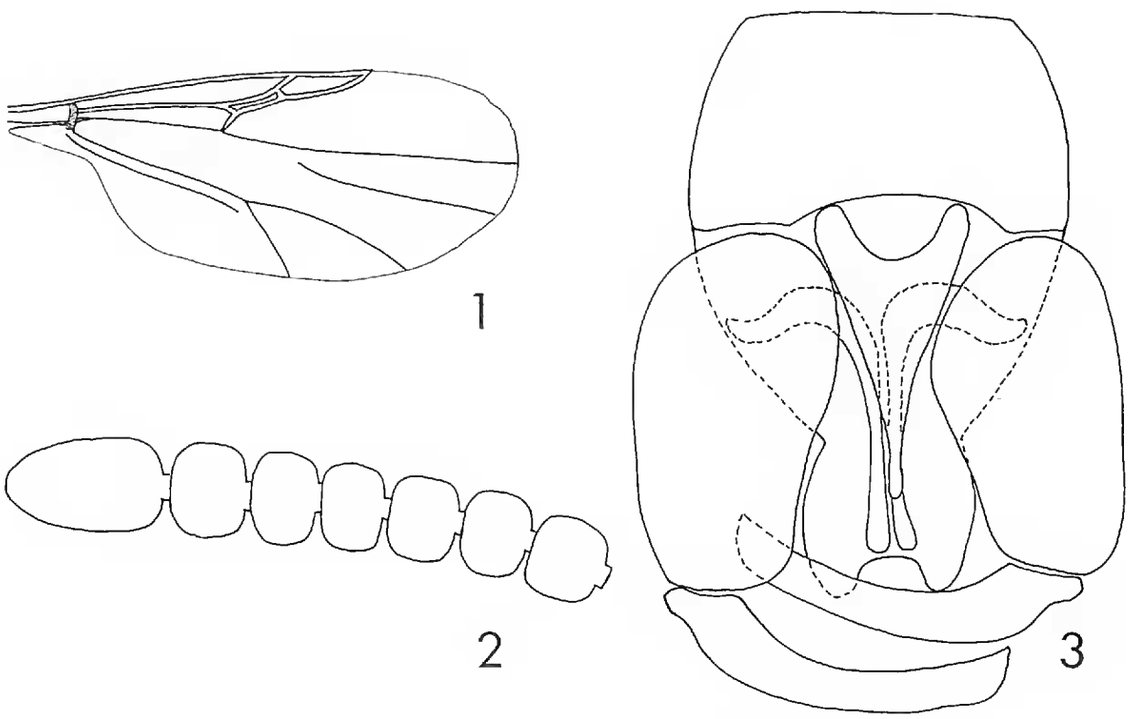
Ingram and Macfie (1931, Dipt. Patagonia and S. Chile, part II, fasc. 1, p. 203) proposed the genus *Macrurohelea* for two species, the type species *M. caudata* Ingram and Macfie from southern Chile, and *M. thoracica* Ingram and Macfie from southern Argentina. In this genus the eyes are widely separated and in part finely pubescent, the legs are slender and unarmed, the fourth tarsomere is slightly bilobed, the fifth tarsomere is unarmed, and the female claws are small and equal. The wing venation is similar to that of *Stilobezzia*, with two radial cells present; the costa extends to about two-thirds of the wing length, the medial fork is petiolate, and the wing surface bears microtrichia but no macrotrichia. The female abdomen is uniquely modified distally,



EXPLANATION OF FIGURES

Fig. 1, *Macrurohelea kuscheli* new species, female wing. Fig. 2, *M. kuscheli* new species, segments 9–15 of female antenna. Fig. 3, *M. setosa* new species, male genitalia.

with the tenth segment long and cylindrical and bent forward and appressed to the venter of the preceding segments of the abdomen; there are two or three spermathecae present. The male genitalia are similar to those of *Stilobezzia*, with Y-shaped aedeagus and separate, long, slender, distally enlarged parameres with laterally bent basal arms.

In the tribe Stilobezziini the genus *Macrurohelea* is separated from *Acanthohelea* Kieffer, *Echinohelea* Macfie, and *Serromyia* Meigen by the absence of femoral spines; from *Stilobezzia* Kieffer and *Monohelea* Kieffer by the equal tarsal claws; and from *Parabezzia* Malloch by the presence of two radial cells.

The genus *Luciamyia* de Meillon is known only from females of one species, *L. biloba* de Meillon from South Africa. It is closely related to *Macrurohelea*, having two radial cells, unarmed femora, equal tarsal claws, and five-segmented palpus, but differs in having only one spermatheca, the wing densely hairy, and the wing venation greatly modified. Vein M_2 is entirely absent and the second radial cell is greatly prolonged and broadened distally. The costa, vein R_{4+5}, and vein M_1 meet in a point at the wing tip where there is a distinct indentation at the wing margin and the fringe is modified into lanceolate scales.

The only other known species of *Macrurohelea* is *commoni* Lee (1962, Proc. Linnaean Soc. N. S. Wales, 87: 339) which was recently described from females from Australia. In the present paper two additional new species are described from central Chile and a key is presented for the separation of the five presently known species.

KEY TO THE SPECIES OF MACRUROHELEA (FEMALES)

1. Second radial cell of wing 2.0 times as long as first; antennal ratio 0.59, segments 11–14 each broader than long (Chile) ..... *kuscheli* new species
   Second radial cell at least 3 times as long as first; antennal ratio 0.90–1.20, segments 11–14 each at least twice as long as broad 2
2. Large species, wing 2.1–2.7 mm long; antenna long and slender, antennal ratio 1.07–1.20 3
   Smaller species, wing 1.3–1.5 mm long; antennae shorter, antennal ratio 0.90–1.00 4
3. Legs with numerous long spinose hairs; wing brownish, the veins dark brown; body dark brown (Chile) ..... *setosa* new species
   Legs with inconspicuous hairs; wings pale including veins; body yellowish brown (Argentina) ..... *thoracica* Ingram and Macfie
4. Wing with second radial cell 4.3 times as long as first; two large and one small spermathecae present, without sclerotized necks (Australia) *commoni* Lee
   Wing with second radial cell 3.2 times as long as first; two subequal spermathecae present, each with distinct sclerotized neck (Chile) ..... *caudata* Ingram and Macfie

MACRUROHELEA CAUDATA Ingram and Macfie

Macrurohelea caudata Ingram and Macfie, 1931, Dipt. Patagonia and S. Chile, part II, fasc. 4, p. 205 (male, female; Casa Pangue, Chile; fig. female abdomen, male genitalia).

New record.—Ancud, Chiloe Island, Chile, 2–7 April 1920, Cornell Univ. Expedition, one female (Cornell Univ. coll.).

MACRUROHELEA THORACICA Ingram and Macfie

Macrurohelea thoracica Ingram and Macfie, 1931, Dipt. Patagonia and S. Chile, part II, fasc. 4, p. 206 (male, female, Bariloche and L. Gutierrez, Argentina; fig. wing).

This species is known only from the types from the Rio Negro Territory of Argentina. I have not seen this species.

MACRUROHELEA COMMONI Lee

Macrurohelea commoni Lee, 1962, Proc. Linnaean Soc. N. S. Wales, 87: 339 (female; Clyde Mountain, N. S. Wales; fig. antenna, palpus, interorbital space, apex abdomen, wing).

I have studied this species and placed it in the key from a paratype kindly deposited in the U. S. National Museum by Mr. Lee.

Macrurohelea kuscheli Wirth, new species

(Figs. 1, 2)

FEMALE.—Wing length 0.94 mm. Head dark brown, including antennae and palpi. Eyes broadly separated, two setae on anterior convex margin of frons between them; interfacetal areas with short pubescence. Antenna (Fig. 2) very short, lengths of flagellar segments in proportion of 20–15–15–15–15–15–14–14–12–12–12–12–28, antennal ratio 0.59, segments 4–10 moniliform, segments 11–14 slightly broader than long. Palpi shrunken, not measured; segments short, apparently nearly in proportion as figured by Lee for *M. commoni.* Mandible with ten teeth.

Thorax dark brown, scutellum concolorous. Legs dark brown, with sparse, fine hairs; hind tibial comb with five spines, the second from the spur longest; tarsi without strong, ventral, spinose setae; fifth tarsomere slender; claws equal, small, from one-third to one-half as long as fifth tarsomere. Wing (Fig. 1) pale grayish, veins slightly brownish; costa short, extending only to 0.68 of wing length; second radial cell 0.5 as long as second. Halter brownish.

Abdomen dark brown; terminal segments modified as usual in the genus. Spermathecae three, shrunken in type specimen and not measured, apparently two subequal ovoid large ones, each about 0.50 mm long, without sclerotized necks, plus a very small one about a fourth as large.

MALE.—Unknown.

Distribution.—Chile.

Holotype female.—ALGARROBO, VALPARAISO, CHILE, 18 September 1951, G. Kuschel (Type No. 67379, U.S.N.M.).

This species is unique in the genus for its small size, very short antenna with transverse subapical segments, and short second radial cell.

Macrurohelea setosa Wirth, new species

(Fig. 3)

FEMALE.—Wing length 2.1 mm. Head dark brown, including antennae and palpi. Eyes broadly separated, a group of four setae on interocular space; interfacetal areas with distinct pubescence. Antenna with lengths of flagellar segments in proportion of 15–10–10–10–10–10–10–10–14–15–16–18–28, antennal ratio 1.07; segments short tapering, tenth segment 1.6 times as long as broad, eleventh segment 2.3 times as long as broad. Palpal segments long and slender, lengths in proportion of 5–15–20–15–25, third segment 3.3 times as long as broad, with an indistinct, very shallow, irregular, distal sensory pit. Mandible with 12 teeth.

Thorax dark brown, scutellum concolorous. Legs dark brown; with numerous, stout, long, setose hairs, the longest on tibia twice as long as diameter of tibia; hind tibial comb of five spines, the second from the spur longest; hind tarsal ratio 2.3; fifth tarsomere very slender, nearly three times as long as fourth; tarsi with spinose ventral setae present; claws equal, strong, slightly curved, each about

half as long as fifth tarsomere. Wing pale brownish infuscated, veins dark brown; costa extending to 0.81 of wing length; second radial cell long, 2.9 times as long as first, relatively narrow, especially distad. Halter infuscated.

Abdomen dark brown; sparse short setae present. Terminal segments modified, narrowed, elongated, and bent forward ventrally as in other species of the genus. Spermathecae two, ovoid, tapering to the duct and with short sclerotized neck, measuring 0.111 mm by 0.080 mm and 0.088 mm by 0.080 mm, including the sclerotized necks.

MALE.—Similar to the female with the usual sexual differences; claws broken and not examined; hind tibial comb with seven spines, hairs of legs longer and stronger than in female, forecoxa with a group of unusually stout blunt-tipped hairs as in *Parabezzia*. Genitalia (Fig. 3): Ninth sternum moderately long, with transverse caudal margin, the posterior membrane spiculate a short way; ninth tergum constricted subapically, with a short, bilobed distal expansion. Basistyle stout; dististyle slender, slightly curved, with blunt-pointed tip. Aedeagus with low, rounded, basal arch, the basal arms short and very stout; midportion gradually tapering distally to about two-thirds total length, the distal third very slender, with peglike distal point. Parameres each with stout curved basolateral arm, distal portion straight, slender, without expanded tip.

Distribution.—Chile.

Holotype female; allotype male.—VEGAS DE SAN ANDRES, 2,250 METERS, ATACAMA, CHILE, 28 September 1952, G. Kuschel (Type No. 67380, U.S.N.M.).

This species is easily recognized by its deeply infuscated wings, large size, uniform dark brown body and legs, strongly setose legs, spermathecae with short necks, elongated antennae and palpi, and characteristic male genitalia.

SCIENTIFIC NOTE

A secondary sexual character in *Corythucha* Stål (Hemiptera : Heteroptera : Tingidae).[1]—Although it is well known that there are differences between the sexes of *Corythucha* Stål in the degree in which the eyes are exposed by the pronotal hood, no mention was found to sexual differences in the antenna. Twenty species of this genus were examined and all showed the same characteristic antennal dimorphism. The males have two distinct types of pilosity, long and short, scattered, erect setae whereas the females have only long setae. Although the setation occurs on all segments, it is most readily visible on segment three. Bailey (1951, Entomol. Amer., 31: 21) states that antennal dimorphism occurs between the two sexes in *Melanorhopala* Stål and in this case was responsible for the confusion of several species that had been described.—JOHN D. LATTIN, *Oregon State University, Corvallis.*

[1] Supported, in part, by the General Research Fund, Oregon State University, Corvallis.